

Depressive Illness and Aggression in Belfast

H. A. LYONS

British Medical Journal, 1972, 1, 342-344

Summary

An inverse relation has been suggested between the incidence of depressive illness and the opportunity to externalize aggressive behaviour. The riot situation in Belfast in 1969-70 provided an opportunity to study this hypothesis. The incidences of depressive illness in the city and a neighbouring peaceful rural county were compared over a number of years. Data regarding age, sex, area of the city, and type of depression were obtained. The city was divided into areas and four of these were studied in detail. Similar data were obtained for persons showing aggressive behaviour.

There was a significant decrease in depressive illness in Belfast in both sexes and all age groups. This was more pronounced in males but the decrease was confined to those in social groups IV and V. The decrease was more significant in riot areas. The suicide rate fell by almost 50% and there was a noticeable increase in the rates of homicide and crimes of violence. In contrast the rural county showed a sharp increase in male depressives.

Introduction

An association between aggression and depression has long been acknowledged in many theories regarding the psychodynamics of depressive illness (Freud, 1952; Abraham, 1953; Storr, 1968). Kendell (1970) reviewed the literature regarding the relation between aggression and depression and put forward the hypothesis that depressive illness is caused by the inhibition of aggressive responses to frustration. According to this the incidence of depressive illness should be high in communities in which there is strong inhibition of aggressive action—for example, the Hutterites (Eaton and Weil, 1955). Conversely a low incidence should be expected in communities where aggression can be more readily expressed, such as in various primitive societies (Carothers, 1947, 1951; Laubscher, 1951; Lambo, 1956, 1960). Recent reports on psychiatric casualties among combat troops in Vietnam show a low incidence of depressive illness (Duy San, 1969; Tischler, 1969).

During 1969 and 1970 there was ample opportunity for aggressive behaviour in Belfast. Severe rioting occurred during August and September 1969 and more sporadic violence continued during the winter in the form of rioting, arson, and bomb explosions. A second, very severe period of rioting occurred in June, July, and August 1970. A measure of the extent of the violence is the fact that 178 explosions occurred during 1970 in the province of Northern Ireland, most of these being in Belfast, and that during 1970 there were 767 persons charged with riotous behaviour. The areas of Belfast where severe rioting has occurred are the parts of the city where poor social conditions prevail, with bad housing, high unemployment, and crowded conditions. As Evans (1960) showed, low social status, high population density, and religious segregation are closely related in Belfast. It has recently been shown by Russell and Russell (1968) that there is a close connexion between overcrowded conditions and aggressive behaviour.

Rioting is largely a male activity, especially involving young males, but the situation in Belfast varies to some extent in that females, though not actually involved in shooting and explosions, have been active in street demonstrations and in supporting their menfolk.

In addition to rioting, arson, shooting, and explosions there has been a pronounced increase in the number of crimes of violence. A reduction in crime during periods of intense civil rights activity has been described in some American cities (Solomon *et al.*, 1965) but this has not been the case in Belfast as there has been a sharp increase in crime, especially armed robbery.

As has been shown, there was no increase in serious mental illness during the period of severe rioting in August and September 1969 (Lyons, 1971). The aim of the present paper is to study the incidence of depressive illness during a year of severe rioting when in large areas of Belfast there was relative freedom to be aggressive.

Method

In Northern Ireland a central records system operates in which data are recorded for each episode of illness for all psychiatric patients treated under the National Health Service. From these records the number of patients with depressive illness was obtained for each year from 1963 to 1968 and for the 12-month period 1 September 1969 to 31 August 1970. This period was selected because it contained the two spells of severe violence. As details concerning the patient are recorded on the day first seen any periods of 12 consecutive months can be compared. The calendar years 1963-8 were chosen as the figures were easily accessible.

Information regarding the international classification numbers 296.0, 296.2, 296.3, 296.9, 298.0, and 300.4 was obtained. As the international classification numbers were changed in 1968, for the years 1963-7 the equivalent international classification numbers were 301.1, 301.2, 302, and 314.0. The depressives were subdivided into the endogenous (296.0, 296.2, 296.3, 296.9, and 298.0) and reactive (300.4) groups and each group was further subdivided according to age, sex, religion, social grade, marital status, outpatient or inpatient, and first episode or previous psychiatric history.

The age groups used were 0-19, 20-29, 30-39, 40-49, 50-64, and 65 and over. Religion was subdivided into Roman Catholic and "others"—the latter being almost completely Protestant as there are very few non-Christians in Northern Ireland. Marital state was divided into single, married, widowed, and separated or divorced. Social grade was determined according to occupation, as in the Registrar General's classification of 1966.

It was decided to compare the incidence of depression in various areas of Northern Ireland. Belfast County Borough was taken as a whole and figures from four different parts of Belfast County Borough were also obtained. The city has four main divisions (North, South, East, and West), each containing a number of electoral wards. In a previous study J. Pemberton (personal communication from the Queen's University, Belfast) divided the city into inner and outer zones, and thus each of the four main divisions contains an inner and outer area. The rioting in Belfast has been in three or four distinct districts—Falls, Ardoyne, Ballymurphy, and Shankill. West Belfast contains all of Falls riot area and most of Ballymurphy. Outer South Belfast is mainly a middle-class residential area and has been riot-free. Figures were obtained for Inner West, Outer West, Inner South,

TABLE I—Cases of Depressive Illness per Year in Belfast and County Down

Diagnostic Group		Mean for 1964-8 (S.D.)	1 September 1969 to 31 August 1970	t Value	P
<i>Belfast</i>					
Males	Endogenous*	176 (15)	149	4.03	<0.05
	Reactive†	178.6 (24)	159	1.82	<0.05
Females	Endogenous*	389.2 (61.3)	350	1.43	N.S.
	Reactive†	531 (63.5)	451	2.82	<0.05
Total		1,274.8 (64)	1,109	5.80	<0.01
<i>Co. Down</i>					
Males		323.2 (13.3)	362	6.53	<0.01
Females		580.8 (53.3)	579	0.08	N.S.
Total		904 (61.2)	941	1.34	N.S.

*I.C.D. codes 296.0, 296.2, 296.3, 296.9, and 298.0.

†I.C.D. code 300.4.

N.S. = Not significant.

S.D. = Standard deviation.

Outer South, and also for County Down. This county was selected as a control as it has been the most peaceful of the six counties of Northern Ireland.

One could have assumed that it was mainly young males who showed aggressive behaviour, but in order to investigate this social data were obtained from the police authorities regarding those who had been arrested and charged with riotous behaviour, disorderly behaviour, or possession of an offensive weapon (personal communication). These figures may not exactly reflect those showing aggression, as possibly the security forces are less likely to arrest females and younger boys, or the more agile may evade capture; nevertheless, those arrested are a fairly accurate measure of the aggressive. The age, sex, occupation, place arrested, home address, and type of offence were obtained.

Results

The figures show that there was a highly significant decrease in the incidence of depressive illness during 1969-70 in Belfast (Table I). This reduction was more pronounced in males, especially males with endogenous-type depression. The incidence in females also showed a significant drop, but the endogenous depression rate did not fall significantly, while the neurotic depressive reaction rate did.

The reduction in male depressives was found in all areas of Belfast examined but was most significant in areas of severest rioting—such as Inner West Belfast—and least in one of the more peaceful areas—namely, Outer South Belfast (Table II). The reduction in the West Belfast figure is much more significant than that of South Belfast, and the Inner regions of both South and West showed a more significant reduction than the equivalent outer zones.

TABLE II—Cases of Depressive Illness per Year in Belfast Males—All Diagnostic Groups

Area of City	Mean 1964-8 (S.D.)	1 Sept. 1969 to 31 Aug. 1970	t Value	P
Inner West	47 (3.6)	38	5.59	<0.01
Outer West	55.8 (5.3)	48	3.29	<0.05
Total West	102.8 (4.8)	86	7.85	<0.01
Inner South	25 (1.8)	19	7.50	<0.01
Outer South	46 (7.9)	37	2.55	N.S.
Total South	71 (7.4)	56	4.55	<0.05
Inner West and South	72 (5)	57	6.73	<0.01
Outer West and South	101.8 (10)	85	3.77	<0.05

The results for County Down, in contrast, show a sharp increase for male depressives but the figure for females remains constant (Table I). The only other group showing an increase is Belfast men in social groups I, II, and III, but this does not reach significance. In contrast the figures for males in social groups IV and V show a highly significant decrease (Table III). One

unexpected finding was a reduction in depressive illness in men of all ages in social groups IV and V and a large fall in incidence in older men (Table III).

TABLE III—Cases of Depressive Illness per year in Belfast Males—All Diagnostic Groups

Age (Years)	Social Group	Mean 1964-8 (S.D.)	1 Sept. 1969 to 31 Aug. 1970	t Value	P
<40	IV and V	56.6 (11.6)	44	2.24	N.S.
40-64	IV and V	96.4 (17.6)	64	3.99	<0.05
≥65	IV and V	24.4 (4.9)	11	6.12	<0.01
Total	IV and V	177.4 (23.7)	119	5.52	<0.01
All ages	I, II, and III	177.2 (24.9)	189	1.02	N.S.

The figures from the area where most aggression occurred—namely, Inner West Belfast—are small and when males under 40 are considered the mean figure for depressives for the years 1964-8 is 16, dropping to 6 for the 12-month period of severe rioting (t value 7.46; P < 0.01).

The figures obtained from the police records show that 98.3% of rioters arrested were male, 82.6% being under 40 and only 17.4% over 40. The difference between home address of the rioters and the place of arrest shows some tendency for rioters to move in from the outer to the inner part of the city. Most rioters, however, were residents of the areas where they were arrested.

The numbers of recorded suicides and homicides in Northern Ireland for several years were obtained from the office of the Registrar General (1964-70). The mean suicide figure for the years 1964-9 was 85 (incidence 5.6 per 100,000 population). The figure for 1970 was 48 (incidence 3.2 per 100,000 population). The equivalent figures for males show a drop from a mean of 51 for 1964-9 to 23 in 1970 (Table IV). If the causes of death listed under "injuries resulting from operations of war" (international classification number E990-E999) and "legal intervention" (international classification number E970-E978) are added to homicide for the year 1970 the figure rises from 19 to 43. During 1964-8 only three deaths resulted from these causes.

TABLE IV—Numbers of Homicides and Suicides in Northern Ireland

Year	Suicide			Homicide		
	Male	Female	Total	Male	Female	Total
1964	49	30	79	1	3	4
1965	42	28	70	1	3	4
1966	47	35	82	4	3	7
1967	64	34	98	5	3	8
1968	51	48	99	4	3	7
1969	54	38	92	8	2	10
Mean 1964-9	51	35.5	85	3.8	2.6	6.2
1970	23	25	48	16	3	19

Discussion

"Western civilization has been aptly termed a depressive culture; and the frequency of depressive reactions in the Western World should make us reconsider our methods of child-rearing and our whole attitude to the aggressive drive within us" (Storr, 1968).

In the past three years there has been ample opportunity to show aggressive behaviour in Belfast and large numbers of people in the city have participated in aggressive acts. These have included confrontations between factions of the two main religious groups, confrontations between each of these groups and the security forces, participation in marches which have been banned, membership of illegal organizations, gun battles, and bombings. It has been impossible for the inhabitants of the riot areas not to become involved to some extent. Many do not participate physically but the aggressive acts which occur in their streets become the main topic of conversation, with a high emotional content, and probably have an "abreactive" function. In order to test the hypothesis that there is an inverse relation between depressive illness and aggressive behaviour it is necessary, firstly, to identify those showing aggression and, secondly, to ascertain if this group is less prone to depressive illness.

Who has been showing this aggressive behaviour? From television film and newspaper reports one would think that this was confined to young males, but when those arrested for riotous behaviour are studied it is found that rioting is not restricted to young males as some females and older men are also included. The police figures almost certainly underestimate the percentage of females as there is more reluctance to arrest them. The police figures also show that those arrested were in social groups IV and V and that the place of arrest was often close to their homes and largely confined to certain areas of the city. Some information about those showing aggression can also be obtained from the casualty figures. Rutherford (1970) showed that 92% of casualties were male and that, of these, 81% were under 40; but of the C.S. gas casualties 35% were female, showing that rioting in Belfast is by no means an exclusively male activity.

The results show a significant reduction in the number of depressives in riot years compared with several previous peaceful years. This reduction is more pronounced in the group showing aggression—namely, males in social groups IV and V who reside in the riot areas. The areas where most aggression occurred showed the greatest fall. These areas are well known and are mainly in West Belfast, especially the Inner West zone. The reduction of depressive illness is most pronounced in this region and least in the relatively peaceful Outer South district.

The fact that there is a decline, though less noticeable, in areas of the city in which little rioting occurred could be accounted for partly by the mobility of some rioters who move in from peripheral new housing estates to the older central parts of the city, which are the traditional battle grounds, to riot.

The only other explanation for the decrease in incidence of depressive illness could be a reduction in the population of the city, and there was a reduction of 17,451 (4.2%) between 1961 and 1966. This reduction, however, was gradual and could not explain the sharp fall in depressive illness since severe rioting began. Also, if the decrease in depressive illness was due to population reduction the decrease would not be selective as regards age, sex, and district of the city.

It is all the more surprising to find a reduction in depression when studies have shown that the incidence of depression in the British Isles, as reflected by hospital admissions, has risen in recent years. The rate for England and Wales advanced by about 75% in the space of eight years (Rawnsley, 1968). The equivalent figures for Scotland also showed an increase (Ratcliff, 1964).

It is interesting to note that it is the endogenous group of depressives which show a greater reduction in men. This may

be due to the fact that it is a more clearly definable group than the neurotic reactive depressive group, which is heterogeneous and includes various personality disorders with depression.

The most peaceful county in Northern Ireland—namely, County Down—showed no alteration in the incidence of depression in females but a large and significant rise in males. It was shown by Fraser (1971) in the riots of August and September 1969 that although there was no increase in mental illness in the riot areas there was an increase in the peripheral peaceful areas. The men in these surrounding peaceful districts may feel more frustration at being unable to participate actively in aggression but who see reports of violence daily through the local news media.

Several writers have referred to the inverse relation between suicide and homicide (Durkheim, 1952; Henry and Short, 1954; Asuni, 1962; Gobar, 1962; United Nations, 1967). Certainly in the past two years in Belfast there has been an opportunity to externalize aggressive feelings which has not been present for many years and the increased homicide rate appears to reflect this. True suicide rates are difficult to assess and only the recorded figures are available—these show almost a 50% drop, which may again be related to the fact that the tendency is to externalize aggression rather than to internalize it. This finding is in keeping with the fact that every country engaged in the second world war showed a decrease in suicide rate (Sainsbury, 1968).

I wish to thank Mr. C. Logan and Miss W. McConkey, of the Central Records Department, Northern Ireland Hospitals Authority, for their help; Mrs. M. Merrick, department of psychology, Purdysburn Hospital, for her advice regarding statistics; and the police authorities for access to their records.

References

- Abraham, K. (1953). *Selected Papers on Psychoanalysis*. New York, Basic Books.
- Asuni, T. (1962). *British Medical Journal*, 2, 1091.
- Carothers, J. C. (1947). *Journal of Mental Science*, 93, 548.
- Carothers, J. C. (1951). *Journal of Mental Science*, 97, 12.
- Durkheim, E. (1952). *Suicide*, translation by J. A. Spaulding. London, Routledge and Kegan Paul.
- Duy San, N. (1969). In *The Psychology and Physiology of Stress*, ed. P. G. Bourne, Chapt. 3, p. 45. New York, Academic Press.
- Eaton, J. W., and Weil, R. J. (1955). *Culture and Mental Disorders*. New York, Free Press.
- Evans, E. (1960). *Social Geography of Belfast*. London, Oxford University Press.
- Fraser, M. (1971). *British Journal of Psychiatry*, 118, 257.
- Freud, S. (1952). *Mourning and Melancholia*. Collected Papers, ed. J. Strachey, vol. 4. London, Hogarth Press.
- Gobar, A. H. (1962). *British Journal of Psychiatry*, 116, 493.
- Henry, A. F., and Short, J. F. (1954). *Suicide and Homicide*. New York, Free Press.
- Kendell, R. E. (1970). *Archives of General Psychiatry*, 22, 308.
- Lambo, T. A. (1956). *British Medical Journal*, 2, 1388.
- Lambo, T. A. (1960). *British Medical Journal*, 2, 1696.
- Laubscher, B. J. F. (1951). *Sex, Custom and Psychopathology*. London, Routledge and Kegan Paul.
- Lyons, H. A. (1971). *British Journal of Psychiatry*, 118, 265.
- Ratcliff, R. A. W. (1964). *British Journal of Psychiatry*, 110, 22.
- Rawnsley, K. (1968). In *Recent Developments in Affective Disorders*, ed. A. Coppen and A. Walk, p. 27. London, Royal Medico-Psychological Association.
- Registrar-General for Northern Ireland (1964-70). *Annual Reports*. Belfast, H.M.S.O.
- Russell, C., and Russell, W. M. S. (1968). *Violence, Monkeys and Man*. London, Macmillan.
- Rutherford, W. H. (1970). *British Journal of Hospital Medicine*, 4, 641.
- Sainsbury, P. (1968). In *Recent Developments in Affective Disorders*, ed. A. Coppen and A. Walk, p. 5. London, Royal Medico-Psychological Association.
- Solomon, F., Walker, W. L., O'Connor, G. J., and Fishman, J. R. (1965). *Archives of General Psychiatry*, 12, 227.
- Storr, A. (1968). *Human Aggression*, Chapt. 8, p. 72. London, Allen Lane, The Penguin Press.
- Tischler, G. L. (1969). In *The Psychology and Physiology of Stress*, ed. P. G. Bourne, Chapt. 2, p. 19. New York, Academic Press.
- United Nations (1968). *Demographic Year Book, 1967*. New York, United Nations.